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CW 11: Diagonal Distance + Pythagorean Theorem

**Honors Geometry**

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| Part 1 Directions: Use the Pythagorean Theorem to find the length of the hypotenuse. Keep answers in radical form. | | |
| Example 1: | 8    6 | 24  10 |
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6) A four sided figure is created using four points: F(-2,10), O(10,10), U(10,-6), R(-2,-6). Is the four sided figure a square or a rectangle? Support your claim using evidence (multiple representations) and reasoning.

7) One vertex of a rectangle is located at (-2,-4). Find the coordinates of three possible vertices to complete the rectangle.

**Plot the following points on the coordinate plane. Use your understanding of Pythagorean theorem to find the diagonal distance between the points.**

8) Point B is located at the origin. Point N is located at What is the distance from point B to Point N?

9) What is the distance between )?

10) What is the distance between

11) What is the distance between ?

12) A 16 foot ladder rests against the side of the house, and the base of the ladder is 4 feet away. Approximately how high above the ground is the top of the ladder?

13) A rectangular field shown below is 40 feet wide and 30 feet long. Joe and Jenna are at point B. Joe walks to point C by walking along the edge of the field through point A. Jenna walks to point C by walking diagonally across the field. About how many meters more does Joe walk than Jenna?

**Derive the Distance Formula.** *Based on how you have calculated distance using Pythagorean theorem up to this point, use this knowledge to derive the distance formula*

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| 14) What is the length of QR? What is the length of QP? **ttp://s3.amazonaws.com/illustrativemathematics/images/000/001/736/max/recdtangle6_e669f589bd1f9807f7d3512fa2002542.jpg?1356391981** |
| **Macintosh HD:Users:rmitrovich:Desktop:Screen Shot 2015-09-29 at 6.10.19 AM.png** |
| **Macintosh HD:Users:rmitrovich:Desktop:Screen Shot 2015-09-29 at 6.10.29 AM.png**15) Determine if the segments are congruent:  a. **Macintosh HD:Users:rmitrovich:Desktop:Screen Shot 2015-09-29 at 6.10.34 AM.png** b. |